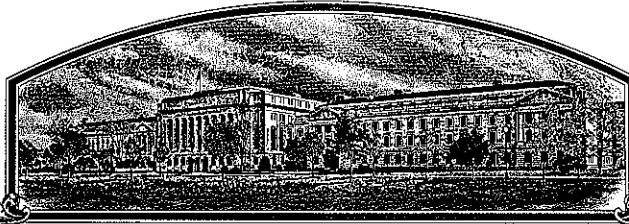


No.

9700014



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Research and Development Institute, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE VARIETY. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'PROWASHONUPANA'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirty-first day of January, in the year of our Lord two thousand.

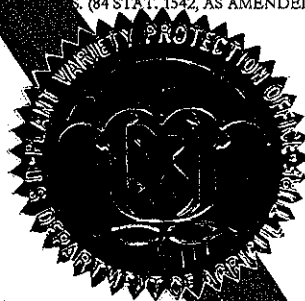
Attest:

Sam Marie Itho

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Don H. Hickman

Secretary of Agriculture

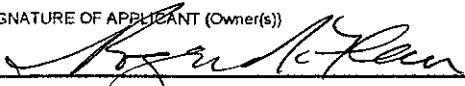


U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(INSTRUCTIONS ON REVERSE)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) <div style="text-align: center;">Research & Development Institute, Inc.</div>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. 		3. VARIETY NAME <div style="text-align: center;">PROWASHONUPANA</div>	
4. ADDRESS (street and no. or R.F.D. no., city, state, ZIP, and country) <div style="text-align: center;">1711 West College Bozeman, Mt 59715</div>		5. PHONE (include area code) <div style="text-align: center;">(406) 587-4479</div>		<div style="text-align: center;">FOR OFFICIAL USE ONLY</div>	
6. FAX (include area code) <div style="text-align: center;">(406) 587-4480</div>		PVPO NUMBER <div style="text-align: center;">9700014</div>		DATE <div style="text-align: center;">October 18, 1996</div>	
7. GENUS AND SPECIES NAME <div style="text-align: center;">Hordeum vulgare</div>		8. FAMILY NAME (Botanical) <div style="text-align: center;">Poaceae</div>		TIME <div style="text-align: center;"><input type="checkbox"/> AM <input type="checkbox"/> PM</div>	
9. CROP KIND NAME (Common Name) <div style="text-align: center;">Barley</div>		Filing and Examination Fee <div style="text-align: center;">\$ 2450.00</div>		Date <div style="text-align: center;">October 18, 1996</div>	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <div style="text-align: center;">Corporation</div>		Certificate Fee <div style="text-align: center;">\$ 300.00</div>		Date <div style="text-align: center;">12/27/99</div>	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION <div style="text-align: center;">Montana</div>		12. DATE OF INCORPORATION <div style="text-align: center;">Sept. 2, 1990</div>			
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS. <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> Roger N. Flair Research & Development Institute, Inc. 1711 West College Bozeman, MT 59715 </div> <div style="width: 35%;"> PHONE (include area code) (406) 587-4479 FAX (include area code) (406) 587-4480 </div> </div>					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee as prescribed in 97.175 of the regulations, made payable to "Treasurer of the United States" (Mail to PVPO)					
15. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)? <input checked="" type="checkbox"/> YES (If "yes", answer items 16 and 17 below) <input type="checkbox"/> NO (If "no", skip to item 18 below)					
16. DOES THE APPLICANT SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED			
18. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES (If "yes", give names of countries and dates) <input type="checkbox"/> NO <div style="text-align: center;">May, 1996 - U.S.A.</div>					
19. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT (Owner(s)) 		CAPACITY OR TITLE <div style="text-align: center;">President</div>		DATE <div style="text-align: center;">10/17/96</div>	
NAME (Please Print or Type) <div style="text-align: center;">Roger N. Flair</div>					
SIGNATURE OF APPLICANT (Owner(s))		CAPACITY OR TITLE		DATE	
NAME (Please Print or Type)					

Prowashonupana

14a. Origin and Breeding History

Prowashonupana (PWSNP) barley was developed at the Montana Agricultural Experiment Station in the late 1970's in a conventional barley breeding program directed by Professor R.F. Eslick. Professor Eslick often named cultivars derived in his breeding program with acronyms formed from descriptive characteristics. In the case of PWSNP the acronym is formed as follows: Pro- for high protein, wa- for waxy starch, sho- for short awns, nu- for nude (hulless) and -pana for the parent barley variety, Compana (CI 5438). Compana is a Montana feed barley that was popular for many years. It was well adapted to minimum soil fertility and dryland areas. The waxy starch gene was incorporated into Compana by back-crossing with waxy Oderbrucker (CI 7563), followed by six back-crosses to the recurrent parent. The resultant "waxy Compana" was then crossed in a similar manner with Sermo (CI 7776), a short-awned, nude cultivar. A waxy, short-awned, hulless barley was selected from these crosses and designated "Washonupana."

As part of a program designed to develop hi-lysine varieties, seed of Washonupana was treated with the chemical mutagen Diethyl Sulfate (DES), and the M2 generation was screened for shrunken endosperm mutants. One shrunken endosperm line (shrunken # 3) had exceptionally high protein, fiber, and beta-glucan. This line was given the name "Prowashonupana." Yield testing and grain analysis studies were conducted by Montana State University personnel in the mid to late 1980's. The Research & Development Institute, Inc. at Montana State University was assigned the variety and arranged an exclusive licensing agreement with ConAgra Specialty Grain Products Co. for the commercial development of this unique variety of barley.

Heads were selected in May, 1990 from an F12 bulk that had been planted near Phoenix, AZ in November, 1989. F13 Head rows were planted in the spring of 1990 in Western Plant Breeders' nursery near Bozeman, MT, and

the spring of 1990 in Western Plant Breeders' nursery near Bozeman, MT, and uniform rows were individually harvested in the fall of 1990. Seed from these rows were planted in the spring of 1992 as line rows. Uniform line rows were harvested individually in the fall of 1992. Because there was no commercial interest in the variety at that time (only testing for scientific information), this line-row seed was held in storage until the spring of 1995. At this point, the seed from the uniform line rows were bulked and planted on six acres near Bozeman, MT. The resultant production was harvested as Breeders seed in the fall of 1995. Breeders seed was planted on 38 acres near Yuma, AZ in November of 1995. The resultant production was harvested as Foundation seed in May, 1996 and planted in Montana for both seed and commercial grain production.

An awned variant occurs at a frequency of up to .05% (5 per 10,000 plants). Otherwise, Prowashonupana is a stable and uniform variety in agronomic appearance and performance across several generations (1987 ,F10, and 1995 ,F14), and growing conditions. Agronomic data to support this stability are presented in Tables 1 through 3.

14b. Novelty Statement

Prowashonupana is most similar to the variety WestBred Waxbar. Both are hulless, waxy, short-awned, two-rowed spring barleys. However, Prowashonupana has a shrunken endosperm. Also, Prowashonupana is 6 to 9 days earlier heading ($t = 5.84$ with 8 d.f. , $p < .001$) and approximately 4 inches shorter($t = 7.99$ with 12 d.f., $p < .001$) than WestBred Waxbar.

14c. Objective Description (see pages 4 and 5)

OBJECTIVE DESCRIPTION OF VARIETY
BARLEY (*HORDEUM VULGARE*)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Research & Development Institute, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

1711 West College
Bozeman, MT 59715

FOR OFFICIAL USE ONLY

PVPO NUMBER

9700014

VARIETY NAME OR TEMPORARY
DESIGNATION
PROWASHONUPANAPlace the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (i.e. or) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

 1 = SPRING 2 = FACULTATIVE WINTER 3 = WINTER Early Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE
3 = ERECT

2. MATURITY (50% Flowering):

 1 = EARLY (California Mariout) 2 = MIDSEASON (Betzes) 3 = LATE (Frontier)

<input type="text" value="0"/>	No. of days Earlier than	<input type="text" value="1"/>	}	1 = BETZES	2 = CALIFORNIA MARIOUT	3 = CONQUEST	4 = DICKSON
<input type="text" value="2"/>	No. of days Later than	<input type="text" value="5"/>		5 = PIROLINE	6 = PRIMUS	7 = UNITAN	

3. PLANT HEIGHT (From soil level to top of head):

 1 = SEMIDWARF 2 = SHORT (California Mariout) 3 = MEDIUM TALL (Betzes) 4 = TALL (Conquest)

<input type="text" value="0"/>	7	Cm. Shorter than	<input type="text" value="1"/>	}	1 = BETZES	2 = CALIFORNIA MARIOUT	3 = CONQUEST	4 = DICKSON
<input type="text" value="1"/>	6	Cm. Taller than	<input type="text" value="8"/>		5 = PIROLINE	6 = PRIMUS	7 = UNITAN	8 = Fiesta

4. STEM:

 Exertion (Flag to spike at maturity): 1 = 0 - 3 cm. 2 = 3 - 10 cm. Anthocyanin: 1 = ABSENT 2 = PRESENT
3 = 10 - 15 cm. NO. OF NODES (Originating from node above ground)

<input type="text" value="1"/>	Collar Shape:	1 = CLOSED 2 = V-SHAPED 3 = OPEN	<input type="text" value="1"/>	Shape of Neck:	1 = STRAIGHT 2 = SNAKY
		4 = MODIFIED CLOSED OR OPEN			3 = OTHER (Specify)

5. LEAF:

<input type="text" value="1"/>	Basal leaf sheath (seedling):	1 = GLABROUS 2 = PUBESCENT	<input type="text" value="2"/>	Position of flag leaf (at boot stage):	1 = DROOPING
					2 = UPRIGHT

<input type="text" value="2"/>	Waxiness:	1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY	<input type="text" value="1"/> <input type="text" value="6"/>	MM. WIDTH (First leaf below flag leaf)
		3 = WAXY		

<input type="text" value="2"/> <input type="text" value="4"/>	CM. LENGTH (First leaf below flag leaf)	<input type="text" value="1"/>	Anthocyanin in leaf sheath:	1 = ABSENT 2 = PRESENT
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6. HEAD:

<input checked="" type="text" value="2"/>	Type:	1 = TWO-ROWED 2 = SIX-ROWED	<input type="text" value="2"/>	Density:	1 = LAX 2 = ERECT (Not dense)
					3 = ERECT (Dense)

<input type="text" value="2"/>	Shape:	1 = TAPERING 2 = STRAP 3 = CLAVATE	<input type="text" value="2"/>	Waxiness:	1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY
		4 = OTHER (Specify)			3 = WAXY

<input type="text" value="1"/>	Lateral Kernels Overlap:	1 = NONE 2 = AT TIP	<input type="text" value="2"/>	Rachis (Hair on edge):	1 = LACKING 2 = FEW 3 = COVERED
		3 = 1/4 - 1/2 OF HEAD			

7. GLUME:

<input type="text" value="3"/>	Length:	1 = 1/3 OF LEMMA 2 = 1/2 OF LEMMA	<input type="text" value="2"/>	Hairs:	1 = NONE 2 = SHORT 3 = LONG
		3 = MORE THAN 1/2 OF LEMMA			

<input type="text" value="2"/>	Hair covering:	1 = NONE 2 = RESTRICTED TO MIDDLE	3 = CONFINED TO BAND	4 = COMPLETELY COVERED
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<input type="text" value="2"/>	Awns:	1 = LESS THAN EQUAL TO LENGTH OF GLUMES	2 = EQUAL TO LENGTH OF GLUMES
		3 = MORE THAN EQUAL TO LENGTH OF GLUMES	

<input type="text" value="3"/>	Awn Surface:	1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH
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8. LEMMA:

- ☐ 4 Awn: 1 = AWNLESS 2 = AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS
3 = SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 = SHORT (less than equal to length of spike)
5 = LONG (longer than spike) 6 = HOODED
- ☐ 3 Awn Surface: 0 = AWNLESS 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH
- ☐ 2 Teeth: 1 = ABSENT 2 = FEW 3 = NUMEROUS ☐ 1 Hair: 1 = ABSENT 2 = PRESENT
- ☐ 1 Shape of base: 1 = DEPRESSION 2 = SLIGHT CREASE ☐ 1 Rachilla Hairs: 1 = SHORT 2 = LONG
3 = TRANSVERSE CREASE

9. STIGMA:

- ☐ 2 Hairs: 1 = FEW 2 = MANY

10. SEED:

- ☐ 1 Type: 1 = NAKED 2 = COVERED ☐ 1 Hairs on Ventral Furrow: 1 = ABSENT 2 = PRESENT
- ☐ 3 Length: 1 = SHORT (8.0 mm.) 2 = SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 = MIDLONG (8.5 - 9.5 mm.)
4 = MIDLONG TO LONG (9.0 - 10.5 mm.) 5 = LONG (10.0 mm.)
- ☐ 1 Wrinkling of hull: 1 = NAKED 2 = SLIGHTLY WRINKLED 3 = SEMIWRINKLED 4 = WRINKLED
- ☐ 1 Aleurone Color: 1 = COLORLESS (White or Yellow) 2 = BLUE
- ☐ 0 ☐ 2 PERCENT ABORTIVE ☐ 3 ☐ 4 GMS. PER 1000 SEEDS

11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

- ☐ 0 SEPTORIA ☐ 1 NET BLOTCH ☐ 1 SPOT BLOTCH ☐ 0 POWDERY MILDEW
- ☐ 1 LOOSE SMUT ☐ 0 BACTERIAL BLIGHT ☐ 0 COVERED SMUT ☐ 0 FALSE LOOSE SMUT
- ☐ 0 STEM RUST ☐ 0 LEAF RUST ☐ 0 SCAB ☐ 1 SCALD
- ☐ 0 AY ☐ 0 BSMV ☐ 0 BYDV ☐ 0 OTHER (Specify)

12. INSECT: (0 = Not tested, 1 = Susceptible 2 = Resistant)

- ☐ 0 GREEN BUG ☐ 0 ENGLISH GRAIN APHID ☐ 0 CHINCH BUG ☐ 0 ARMYWORM
- ☐ 0 GRASS HOPPERS ☐ 0 CERIAL LEAF BETTLE ☐ 0 OTHER (Specify)
- HESSIAN FLY RACES } ☐ 0 GP ☐ 0 A ☐ 0 B ☐ 0 C
☐ 0 D ☐ 0 E ☐ 0 F ☐ 0 G

13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

- ☐ 0 DDT ☐ 0 OTHER (Specify)

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	WestBred Waxbar	Seed size	Hiproly
Leaf size	WestBred Waxbar	Coleoptile elongation	Westbred Waxbar
Leaf color	Compana	Seedling pigmentation	WestBred Waxbar
Leaf carriage	WestBred Waxbar		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

1. Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
2. Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
3. Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

PROWASHONUPANA

Table 1. Agronomic characteristics of Prowashonupana compared to WestBred Waxbar in Montana State Univ. trials in 1987.

Prowashonupana						WestBred Waxbar				
Location	Yield (bu/ac)	Heading Date (Julian)	Plant Height (inches)	Test Weight (lbs/bu)	Plump * %	Yield (bu/ac)	Heading Date (Julian)	Plant Height (inches)	Test Weight (lbs/bu)	Plump * %
Dryland										
Bozeman	38.6	169	25	51	30	68.3	177	28	60	63
Conrad	60.2	-	27	44	43	81.6	-	28	53	75
Havre	28.4	172	19	47	48	45.1	174	21	57	77
Huntley	40.1	161	26	46	28	55.4	169	29	52	22
Moccasin	32.1	172	28	51	23	54.9	177	32	59	58
Sidney	<u>39.7</u>	<u>181</u>	<u>18</u>	<u>46</u>	<u>34</u>	<u>60.4</u>	<u>182</u>	<u>22</u>	<u>52</u>	<u>19</u>
mean	41.4	170.8	23	46.8	36.6	62.2	175.5	25.6	54.8	51.2
Irrigated										
Bozeman	54.1	168	31	42	27	69.5	177	39	43	29
Conrad	64.9	-	28	47	41	101.1	-	34	54	64
Kalispell	55.4	163	23	46	39	72.4	167	28	52	66
Sidney	<u>69.6</u>	<u>164</u>	<u>28</u>	<u>44</u>	<u>25</u>	<u>74.0</u>	<u>172</u>	<u>32</u>	<u>46</u>	<u>41</u>
mean	61.0	165.0	27.5	44.8	33.0	79.3	172.0	33.3	48.8	50.0
Grand mean	48.3	168.8	25.3	46.4	33.8	68.3	174.4	29.3	52.8	51.4

* % plump = seed that stays on top of a 6/64 " x 3/4 " sieve

PROWASHONUPANA

Table 2. Agronomic characteristics of Prowashonupana compared to WestBred Waxbar in Western Plant Breeders' trials in 1995.

Location	Prowashonupana				WestBred Waxbar			
	Yield (lbs/ac)	Heading Date (Julian)	Plant Height (inches)	Test Weight (lbs/bu)	Yield (lbs/ac)	Heading Date (Julian)	Plant Height (inches)	Test Weight (lbs/bu)
<i>Irrigated</i>								
Bozeman, MT	3344	192	30	47	4131	201	37	54
<i>Dryland</i>								
Conrad, MT (loc. 1)	2425	-	24	52	3393	-	30	60
Conrad, MT (loc. 2)	2534	-	26	50	3801	-	30	56
mean	2768		27	50	3775		32	57

PROWASHONUPANA

Table 3. Analysis of Prowashonupana grain compared to WestBred Waxbar grain grown in Western Plant Breeders' trials in 1995 (analysis by Con Agra Specialty Grain Products Co.)

Location	Moisture %	Ash %	Protein %	Fat %	Starch %	TDF %	Beta Glucan %
Bozeman, MT							
Prowashonupana	6.7	2.58	21.9	5.5	23.8	44.8	15.7
WestBred Waxbar	6.4	2.17	18.2	2.4	55.0	17.7	5.2
Conrad, MT (loc. 1)							
Prowashonupana	6.5	2.54	16.1	5.1	30.5	41.4	17.6
WestBred Waxbar	6.8	2.02	11.7	2.2	65.8	14.8	6.0
Conrad, MT (loc. 2)							
Prowashonupana	6.2	2.21	19.5	5.6	22.3	38.5	14.4
WestBred Waxbar	6.7	1.65	13.4	2.4	59.1	13.9	3.9
mean							
Prowashonupana	6.5	2.44	19.2	5.4	25.5	41.6	15.9
WestBred Waxbar	6.6	1.95	14.4	2.3	60.0	15.5	5.0

(values reported on a dry weight basis)

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Research & Development Institute, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME PROWASHONUPANA
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 1711 West College Bozeman, MT 59175	5. TELEPHONE (include area code) (406) 587-1218	6. FAX (include area code) (406) 586-8247
7. PVPO NUMBER 9700014		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO
 If no, give name of country _____

10. Is the applicant the original breeder? If no, please answer the following: ☐ YES ☒ NO

a. If original rights to variety were owned by individual(s):

Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country _____

☒ YES ☐ NO

b. If original rights to variety were owned by a company:

Is the original breeder(s) U.S. based company? If no, give name of country _____

11. Additional explanation on ownership (If needed, use reverse for extra space):

The Plant, Soil and Environment Science Dept. of Montana State University has assigned ownership of "Prowashonupana" to the Research & Development Institute, Inc.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter.

Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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